

# Notice of Allowability

Application No.

09/990,126

Examiner

TUAN A PHAM

Applicant(s)

SEAN SIMMONS

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2643

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2004.
2. ☒ The allowed claim(s) is/are 1-2, 4-6, 9-21, 23-31, 33, and 35-81.
3. ☒ The drawings filed on 21 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Attorney of record David B. Cochran on January 24, 2005. Claims 4-6 is revised to depend on claim 1, and claim 80 is revised to depend on claim 79.

3. The application has been amended as follows:

In claim 4, line 1, "claim 3" has been changed to --claim 1--.

In claim 5, line 1, "claim 3" has been changed to --claim 1--.

In claim 6, line 1, "claim 3" has been changed to --claim 1--.

In claim 80, line 1, "claim 80" has been changed to --claim 79--.

**(END of AMENDMENT)**

### **REASONS FOR ALLOWANCE**

3. Claims 1-2, 4-6, 9-21, 23-31, 33, and 35-81 are allowed over the prior art of record.

4. The following is an examiner's statement of reasons for allowance:

The Applicant's Remarks filed on 10/29/2004 have been carefully reviewed with update search. Consequently, allowances of claims 1-2, 4-6, 9-21, 23-31, 33, and 35-81 are set forth in according to the Applicant's Remarks stated on pages 29-31.

The prior art made of record fails to teach or suggest, the arrangement of the receiver circuit comprising a primary digital signal processor, secondary digital signal processor, primary gain controller, and secondary gain controller, wherein the primary controller comprises an amplitude calculator comprising an input coupled to the intermediate signal output and an output configured to provide an indication of the signal amplitude of the scaled signal; and a gain calculator comprising an input coupled to the amplitude calculator output and an output coupled to the primary amplifier, and configured to calculate a primary gain control value using the indication of the amplitude of the scaled signal to control the gain applied by the primary amplifier. The secondary gain controller comprises a delay stage comprising an input coupled to the gain calculator to receive the primary gain control value and an output, and configured to apply a predetermined time delay to the primary gain control value to provide a delayed primary gain control value at the output; and a threshold detector comprising a first input

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coupled to the delay stage output, a second input coupled to the amplitude calculator to receive the indication of the amplitude of the scaled signal, and an output coupled to the secondary amplifier, and configured to calculate the parameter and determine whether the parameter is above or below the threshold and to set the gain of the secondary amplifier to the first gain value or the second gain value. Furthermore, the primary gain controller includes a primary power estimator comprising an input coupled to the intermediate signal output and an output configured to provide an indication of one of the signal power or signal amplitude of the scaled signal; and a primary inverter comprising an input coupled to the primary power estimator output and an output coupled to the primary amplifier, and configured to provide a primary gain control value inversely proportional to the signal power or signal amplitude of the scaled signal to control the gain applied by the primary amplifier; and the secondary gain controller comprises: a first secondary inverter comprising an input coupled to the primary inverter and an output coupled to the first secondary amplifier, and configured to provide the inverse of the gain of the primary amplifier as the gain of the first secondary amplifier; a gain estimator comprising an input coupled to the output of the first secondary amplifier and an output configured to provide a gain estimate; and a threshold detector coupled to the gain estimator and configured to calculate the parameter and determine whether the parameter is above or below the threshold and to set the gain of the second secondary amplifier to the first gain value or the second gain value, in combination with other limitations, as specified in the independent claims 1, 21, 31, 46-47, 49-50, 67, 79,

and 81, and further limitations of their respectively dependent claims 2, 4-6, 9-20, 23-30, 33, 35-45, 48, 55-66, 68-78, and 80.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

**IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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January 24, 2005  
Examiner

Tuan Pham

  
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